



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

MEMORANDUM

Date: October 23, 2009

SUBJECT: Fluroxypyr 1-methylheptl ester: HED Response to a Request to Waive
Nature of the Residue Data for Rice

PC Code: 128968

Decision No.: 414890

Petition No.: None

Risk Assessment Type: None

TXR No.: None

MRID No.: 47754701

DP Barcode: 369118

Registration No.: None

Regulatory Action: Waiver Request

Case No.: 292241

CAS No.: 81406-37-3

40 CFR: 180.535

FROM: Toiya Goodlow, Chemist
Reregistration Branch 1
Health Effects Division (7509P)

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THROUGH: Donna S. Davis, Chemist
Michael S. Metzger, Branch Chief
Reregistration Branch 1
Health Effects Division (7509P)

A handwritten signature in black ink, appearing to read "Michael S. Metzger".

TO: Joanne Miller, Risk Manager
Tracy White, Risk Review Manager
Herbicide Branch
Registration Division (7505P)

EXECUTIVE SUMMARY

Dow AgroSciences (DAS), the registrant for the herbicide fluroxypyr 1-methylheptl ester (fluroxypyr 1-MHE), has requested a waiver for data depicting the nature of the residue in rice following treatment with fluroxypyr 1-MHE. Metabolism data are currently available for wheat and poultry and ruminant livestock commodities; a confined rotational crop study is also available. Residues of concern are adequately delineated in plant and livestock commodities; however, there are existing uncertainties concerning the residues of concern in drinking water. Major drinking water metabolites 3-chloropyridinol and dichloropyridinol were identified in the available environmental fate

studies. Since rice is grown in an aquatic environment it is possible that these degradates could also be found in rice. Therefore, data depicting the nature of the residue in rice cannot be waived at this time. A rice metabolism study should be submitted with the future rice petition. Alternatively, if the registrant seeks future registrations on a wide variety of crops, DAS may conduct metabolism studies in two diverse crops to provide a complete metabolic profile for fluroxypyr 1-methylheptl ester.

DETAILED CONSIDERATIONS

Fluroxypyr is a member of the pyridinoxy acid class of herbicides, and induces auxin-type responses in susceptible annual and perennial broadleaf weeds. Tolerances are established under 40 CFR§180.535 for fluroxypyr methylheptyl ester [((4-amino-3,5-dichloro-6-fluoro-2-pyridinyl)oxy) acetic acid, 1-methylheptyl] and its metabolite fluroxypyr [((4-amino-3,5-dichloro-6-fluoro-2-pyridinyl)oxy) acetic acid], free and conjugated, all expressed as fluroxypyr, in/on various cereal grains, pome fruit, onions, garlic, shallots and livestock commodities.

Metabolism data are currently available for wheat and poultry and ruminant livestock commodities; and a confined rotational crop study has also been submitted. The nature of the residue in wheat and livestock commodities is adequately understood. Metabolism of fluroxypyr 1-MHE proceeds through ester hydrolysis to form fluroxypyr, followed by conjugation into various fluroxypyr-based moieties. The residues of concern for both plant and livestock commodities are fluroxypyr 1-methylheptyl ester and its metabolite fluroxypyr, free and conjugated, all expressed as fluroxypyr (HED Metabolism Assessment Review Committee, 21-APR-1998). Note: metabolism data for onions was not submitted to the Agency in conjunction with the onion registration (PP #3E6775, D331225, 8/2/06, D. Davis) as referenced in the current MRID.

Environmental fate data for fluroxypyr-MHE and fluroxypyr show the degradation of fluroxypyr-MHE yields fluroxypyr acid, 4-amino-3,5-dichloro-6-fluoro-pyridin-2-ol (pyridinol metabolite), 4-amino-3,5-dichloro-6-fluoro-2-methoxypyridine (methoxypyridine metabolite) and CO₂. The major degradate 3-chloropyridinol, was present in the water phase at maximum of 18% of the applied radioactivity at 4 months post-treatment. The major degradate, dichloropyridinol, was present in the water phase at maximum of 44% of the applied radioactivity at 4 weeks post-treatment (D28831, 3/5/03, I. Abdel-Saheb).

Rice cultivation practices differ greatly from wheat and it is possible that the degradates found in the available environmental fate studies could also be detected in rice. Therefore, data depicting the nature of the residue in rice cannot be waived at this time. A rice metabolism study should be submitted with the future rice petition. Alternatively, if the registrant seeks future registrations on a wide variety of crops, DAS may conduct metabolism studies in two diverse crops to provide a complete metabolic profile for fluroxypyr 1-methylheptl ester.